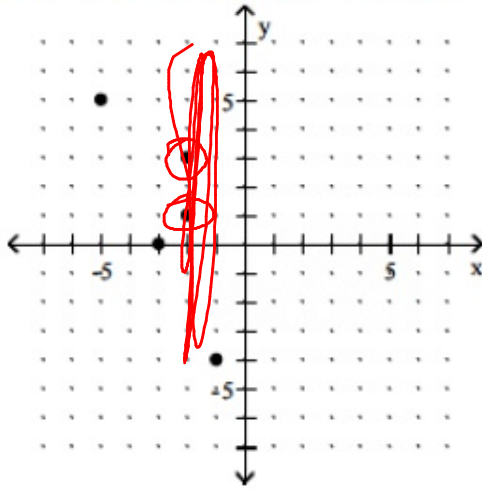
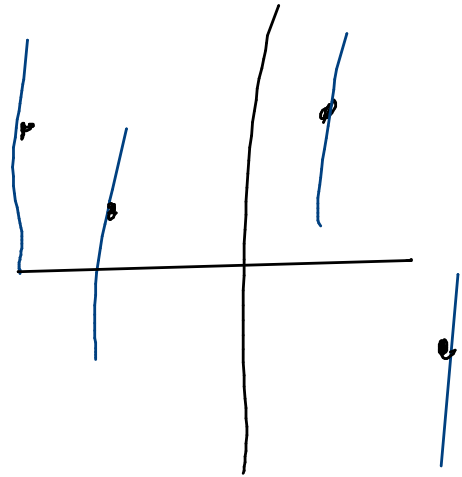


1. Determine whether the graph is the graph of a function.



Not Function



Function

2. Given the function: $h(x) = x^2 + 2x - 3$, find the following function values:

a) $h(-4)$

$$(-4)^2 + 2(-4) - 3$$

$$16 - 8 - 3$$

$$\textcircled{5}$$



b) $h(0)$

$$0^2 + 2(0) - 3$$

$$0 + 0 - 3$$

$$\boxed{-3}$$



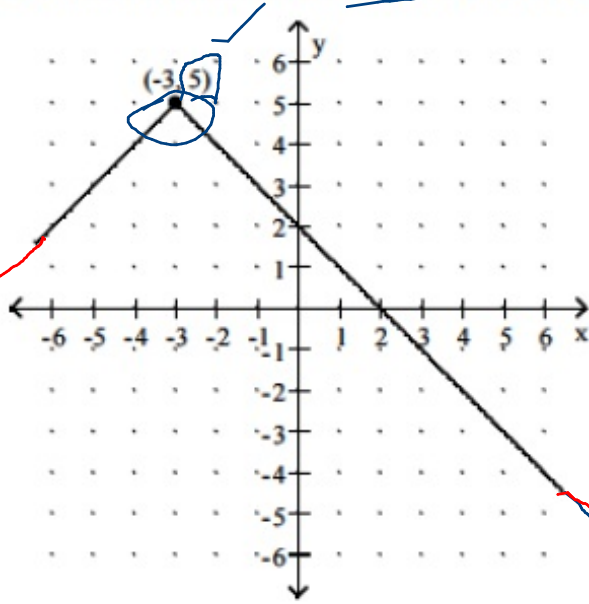
c) $h(3)$

$$3^2 + 2(3) - 3$$

$$9 + 6 - 3$$

$$\checkmark \textcircled{12}$$

3. Find the domain and range of the function graphed.



Domain:

Left Right

$(-\infty, \infty)$ ✓

Range

Bottom, Top

$(-\infty, 5]$ ✓

Determine whether the given ordered pair is a solution of the following linear system of equations.

$$\begin{cases} 2x - 3y = 8 \\ x - 2y = 6 \end{cases}$$

4. $(-2, -4)$

$$\begin{aligned} 2(-2) - 3(-4) \\ -4 + 12 = 8 \checkmark \end{aligned}$$

$$\begin{aligned} -2 - 2(-4) \\ -2 + 8 = 6 \checkmark \end{aligned}$$

Yes!

5. $(7, 2)$

$$\begin{aligned} 2(7) - 3(2) \\ 14 - 6 = 8 \checkmark \end{aligned}$$

$$\begin{aligned} 7 - 2(2) \\ 7 - 4 = 3 \text{ Not } 6 \times \end{aligned}$$

NO!

6.

$$\begin{cases} y - x = 5 \\ 2x - 2y = -10 \end{cases}$$

$$y - x = 5$$

$$x = 0$$

$$y = 5$$

✓

$$y = 0$$

$$-x = 5$$

$$x = -5$$

$$(-5, 0) \checkmark$$

$$x = 0$$

$$\cancel{2(0)} - 2y = -10$$

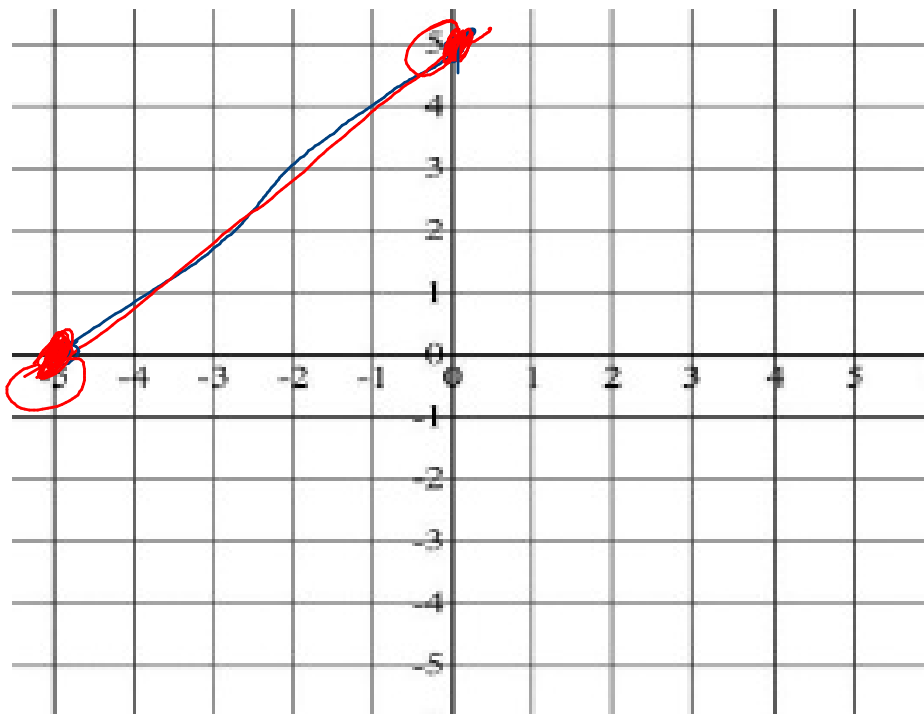
$$\frac{-2}{-2} = \frac{-10}{-2}$$

$$(0, 5) \quad y = 5$$

$$y = 0$$

$$\frac{2}{2}x - \cancel{2(0)} = \frac{-10}{2}$$

$$x = -5 \quad (-5, 0)$$



SAME Line

Inf. & c

7.

$$\begin{cases} x+y=8 \\ x-y=-6 \end{cases}$$

$$\begin{aligned} x=0 \quad y=8 \\ (0, 8) \checkmark \\ y=0 \quad x=8 \\ (8, 0) \end{aligned}$$

$$x=0$$

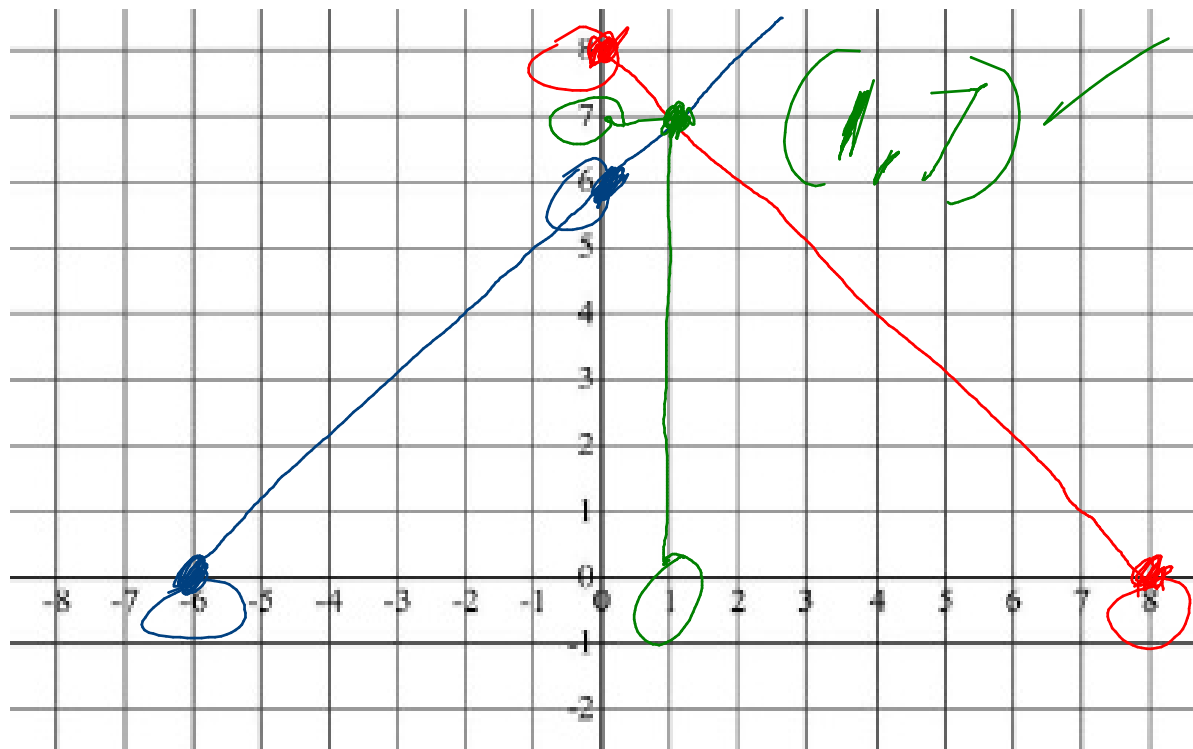
$$-y = -6$$

$$y=6$$

$$(0, 6)$$

$$y=0$$

$$\begin{aligned} x=6 \\ (-6, 0) \checkmark \end{aligned}$$



8.

$$\begin{cases} x+y=2 \\ x+y=-4 \end{cases}$$

$$x+y=2$$

$$x=0 \quad y=2$$

$$(0, 2)$$

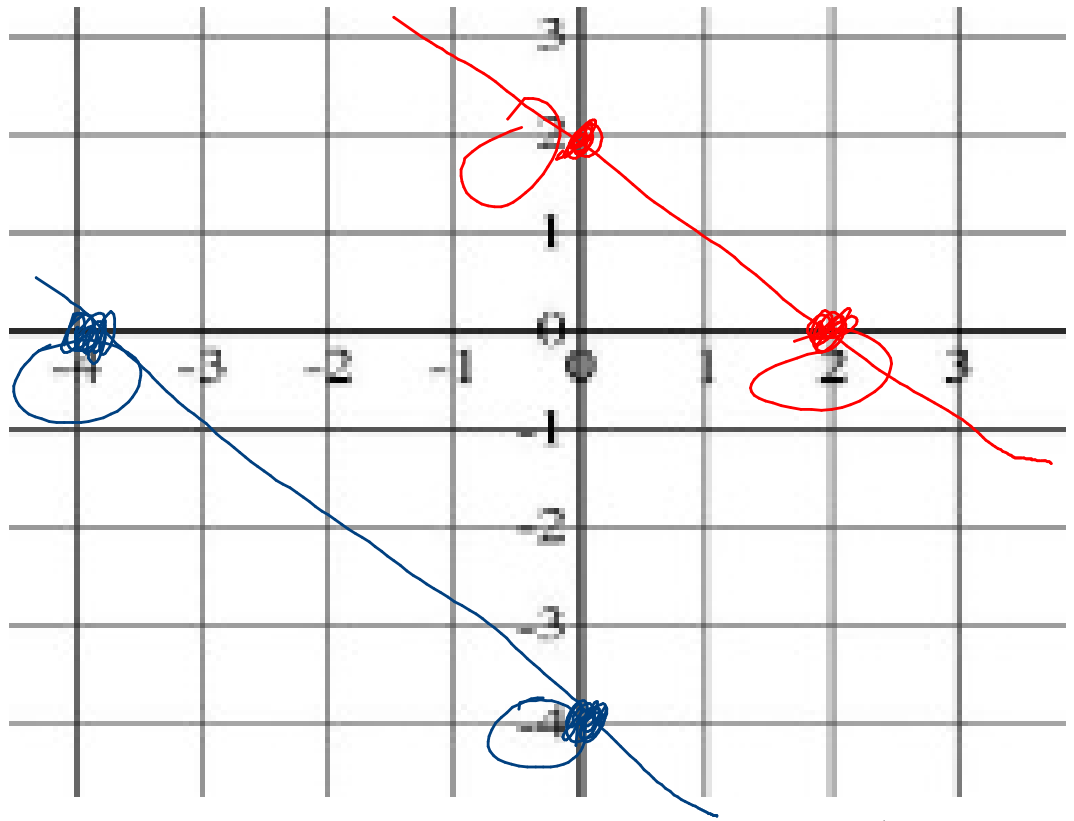
$$y=0 \quad x=2$$

$$(2, 0)$$

$$x+y=-4$$

$$x=0 \quad y=-4 \quad (0, -4)$$

$$y=0 \quad x=-4 \quad (-4, 0)$$



Parallel
No solution

9.

$$\begin{cases} 3x + 2y = 22 \\ x = 5y - 4 \end{cases}$$

$$3(5y - 4) + 2y = 22$$

$$\underline{15y} - 12 + \underline{2y} = 22$$

$$17y - 12 = 22$$
$$\begin{array}{r} +12 \quad +12 \\ \hline \end{array}$$

$$\begin{array}{r} 17y \\ \hline 17 \end{array} = \begin{array}{r} 34 \\ \hline 17 \end{array}$$

$$\boxed{y = 2} \quad \checkmark$$

$$x = 5y - 4$$

$$x = 5(2) - 4$$

$$x = 10 - 4$$

$$\boxed{x = 6} \quad \checkmark$$

10.

$$\begin{cases} 5x + 15y = 35 \\ 4x + 12y = 36 \end{cases}$$

$$\underline{-12y \quad -12y}$$

$$\frac{4}{4}x = \frac{36}{4} - \frac{12}{4}y$$

$$x = 9 - 3y$$

$$5(9 - 3y) \stackrel{+15y}{=} 35$$

$$45 - \cancel{15y} + \cancel{15y} = 35$$

$$45 \neq 35$$

No Solution

11.

$$\rightarrow \begin{cases} 2x + y = 4 \\ 2x + 3y = 0 \end{cases}$$

$$\cancel{2x} - y = -4$$

$$\cancel{2x} + 3y = 0$$

$$\frac{2y}{2} = \frac{-4}{2}$$

$$y = -2$$

✓

$$2x + \cancel{y} = 4$$

$$\begin{array}{r} 2x - 2 = 4 \\ +2 \quad +2 \end{array}$$

$$\begin{array}{r} 2x = 6 \\ \underline{2} \quad \underline{2} \end{array}$$

$$x = 3$$

✓

12.

$$\begin{array}{l} 3 \\ -4 \end{array} \begin{cases} 4x + 5y = 2 \\ 3x - y = 11 \end{cases}$$

~~$12x + 15y = 6$~~

~~$-12x + 4y = -44$~~

$$\begin{array}{r} 19y = -38 \\ \hline 19 \quad 19 \end{array}$$

$$y = -2$$

$$3x - y = 11$$

$$\begin{array}{r} 3x + 2 = 11 \\ -2 \quad -2 \\ \hline \end{array}$$

$$\begin{array}{r} 3x = 9 \\ \hline 3 \quad 3 \end{array}$$

$$x = 3$$

13.

$$\begin{cases} 12 \begin{cases} 3x - 4y = 6 \\ -3 \begin{cases} 12x - 16y = 24 \end{cases} \end{cases} \end{cases}$$

~~$$36x - 48y = 72$$~~

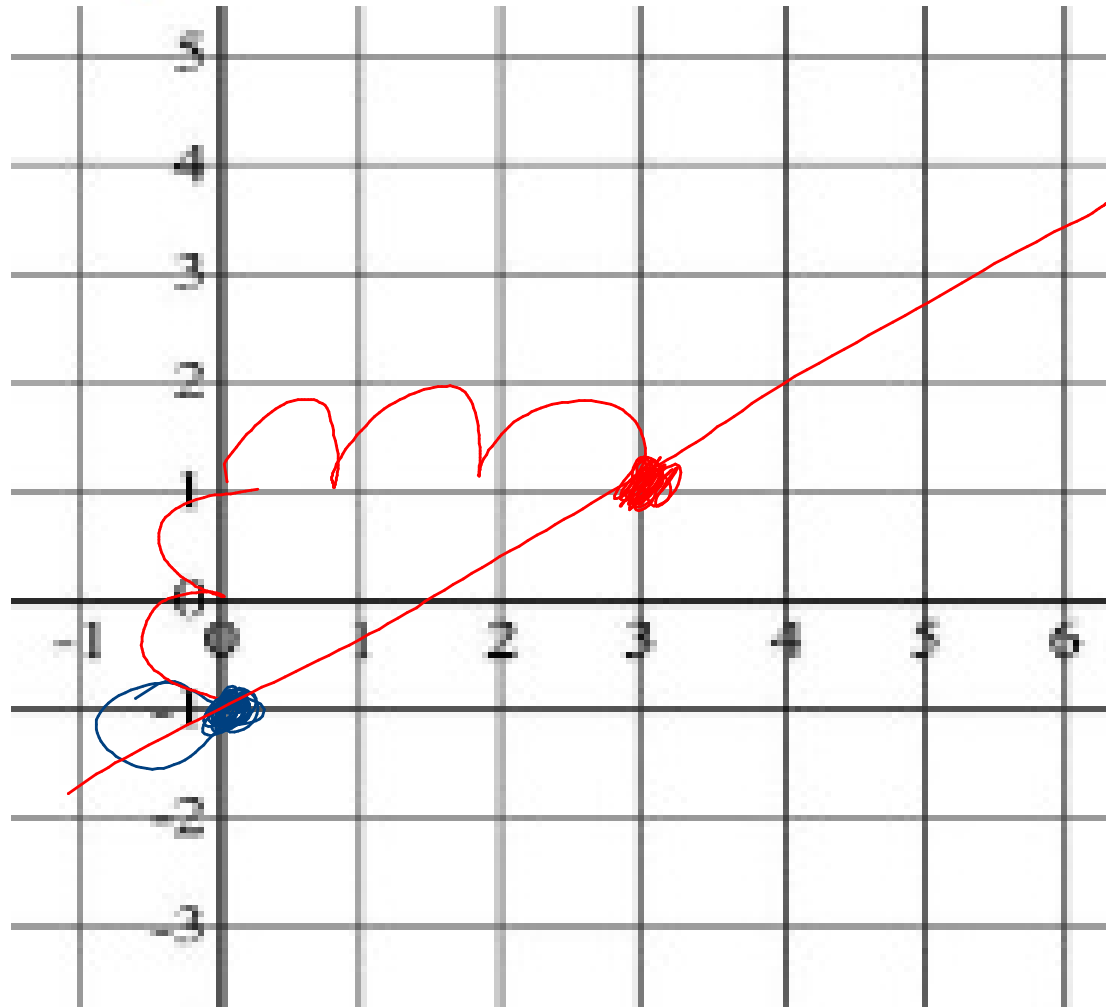
~~$$-36x + 48y = -72$$~~

Infinte

14. Graph the linear function: $f(x) = \frac{2}{3}x - 1$

slope $\frac{2}{3}$ up
3 RT

$y = -1$
(start)



15. Find an equation of the line with slope $m = \frac{1}{3}$ and containing the point $(-3, 6)$. Write the equation using functional notation.

~~x~~ ~~y~~

$$Y = mx + B$$

$$6 = \frac{1}{3}(-3) + B$$

$$6 = -\frac{3}{3} + B$$

$$6 = -1 + B$$

$$\begin{array}{r} +1 \\ \hline 7 = B \end{array} \quad \begin{array}{r} +1 \\ \hline \end{array} \quad \checkmark$$

$$Y = \frac{1}{3}X + 7$$

\checkmark

16. Find the equation of the line containing the points $(1, 3)$ and $(3, 2)$. Write the equation using functional notation.

$$\text{Slope } \frac{y_1 - y_2}{x_1 - x_2}$$

$$\frac{3 - 2}{1 - 3} = \boxed{-\frac{1}{2}} \checkmark$$

$$y = mx + b$$

$$3 = -\frac{1}{2}(1) + b$$

$$3 = -\frac{1}{2} + b$$

$$\begin{array}{r} +\frac{1}{2} \\ 3 \\ \hline \end{array} \quad \begin{array}{r} +\frac{1}{2} \\ -\frac{1}{2} \\ \hline \end{array}$$

$$\frac{7}{2} = b \checkmark$$

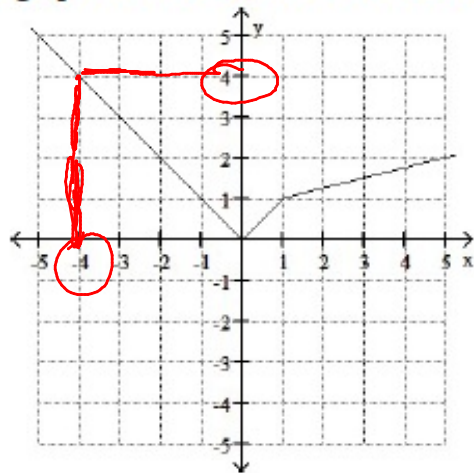
$$y = -\frac{1}{2}x + \frac{7}{2}$$

17. For a certain function $f(-4) = -3$, write the corresponding ordered pair.

$(-4, -3)$



18. Use the graph to find the indicated function value for $y = f(x)$. Find $f(-4)$



19. If y varies directly as x , find the constant of variation and the direct variation equation if $y = 6$ when $x = 18$.

$$y = kx$$

$$6 \div 18 = \frac{6}{18} = \frac{1}{3} = k \checkmark$$

$$y = \frac{1}{3}x$$

20. If y varies inversely as x , find the constant of variation and the inverse variation equation if $y = 8$ when $x = 7$.

times

$$y \cdot x$$

$$8 \cdot 7 = 56 = k \checkmark$$

$$y = \frac{56}{x}$$

21. The weight of a synthetic ball varies directly with the cube of its radius. A ball with a radius of 3 inches weighs 5.4 pounds. Find the weight of a ball of the same material with a 4 inch radius.

$$W = Kr^3$$

$$5.4 = K(3)^3$$

$$\frac{5.4}{27} = \frac{27K}{27}$$

$$.2 = K$$

✓

$$W = .2r^3$$

$$.2(4)^3$$

$$.2(64)$$

$$12.8$$

✓